creased knee-jerks indicates functional, and not organic, disease.

Ankle clonus is found in twenty per cent. of cases of hysteria in general, but in a much higher per cent. of cases with hystero-epilepsy, paralyses, anæsthesia, etc.

Ankle clonus is rare in paralysis agitans, very marked in paramyoclonus multiplex; exists in twenty to thirty per cent. of cases of neurasthenia; in some fifty per cent. of the psychoses; in tetanus, but not in tetany.

Exaggerated knee-jerks were found in 17.2 per cent. of criminals by Marro and Tombroso.

Exaggeration of deep reflexes in spastic spinal paralysis and amyotrophic lateral sclerosis differentiates decisively progressive muscular atrophy and neuritis, where they are absent.

Ankle clonus has the same relation to degeneration of the lateral columns of the cord as Westphal's symptom has to that of the posterior columns.

In ordinary apoplexy, with the loss of consciousness a primary foot clonus is observed, which shortly disappears. But if in two weeks to two months a secondary ankle clonus appears in the paralyzed leg, it means secondary degeneration of the lateral columns and leads to the certain anticipation of a permanent active hemicontracture.

Ankle clonus without other especial symptom leads one to suspect epilepsy or neurasthenia.

Ankle clonus with hemianæsthesia indicates hysteria; with intention-tremor, multiple sclerosis; with atrophy, amyotrophic lateral sclerosis; with spastic-paretic gait, spastic spinal paralysis or progressive paralysis; with anæsthesia of legs and paraplegia, dorsal or cervical myelitis.

Unilateral ankle clonus in hemiplegia or monoplegia indicates a cerebral lesion, and excludes almost always a spinal affection.

THEORY OF THE ORIGIN OF THE TRAUMATIC NEUROSES.

Th. Meynert discusses this subject in the Wiener klin. Woch., 1889, No. 24 26. He does not think there is any disturbance of the cortex, but that the functional disorder has its seat in the conducting tracts of the forebrain. The organic unilateral paralyses and anæsthesias are, as taught by Charcot, due to disturbances in the region of the arteriæ lenticulo-opticæ. Functional or traumatic hemiplegia is caused by nutritive disturbances in the region of the arteria chorioidea, which, according to Heubner and Duret, nourishes the posterior segment of the internal capsule, the walls of the ventricles and their ganglia.

Kolisko's injection-experiments, not yet published, show that the nutritive region of the arteria chorioidea includes: the optic tract, internal capsule, wall of the descending horn and the cornu ammonis (smell centre, Zuckerkandl). Thus a nutritive disturbance of this vessel explains cerebral hemianæsthesia with unilateral blindness, anosmia and motor paralysis. The fact that the face and tongue are not affected in the functional disorders is explained by the position of their nerve tracts in the most anterior part of the posterior portion of the internal capsule, more on the border between the posterior and anterior limbs.

The anterior portion of the internal capsule receives its nutritive branches from vessels coming through the lamina perforata

The arteria chorioidea seems to have a predilection for functional disturbances, because it is the smallest branch of the basal vessels, and because it has no anastomoses with other basal arteries; hence, a vicarious distention or collateral overflow is not possible in its area when, for instance, there is a general spastic contraction of the circle of Willis. And in functional paralyses we are mostly concerned with spastic, vasomotor disturbances, such as irritation of the subcortical emotional centres and transfer of the irritation to the circle of Willis through the sympathetic.

EXPERIMENTAL OBSERVATIONS OF THE RELATION OF THE MOTOR GANGLION CELLS OF THE CORD TO THE PERIPHERAL NERVES.

Dr. Alb. von Sass, of Dorsat, contributes a paper upon the above subject to Virchow's Arch., vol. cxvi., part 2.

Prévost and David found in atrophy of the muscles of the hand atrophy of the roots of the seventh and eighth cervical nerves with atrophy of the anterior horn (especially affecting the cells of the lateral group) two to three cm. in length.

Sahli in a similar case found atrophy of the anterior horn at the level of the fourth to the seventh cervical nerves, particularly in the postero-external region.

Kahler and Pick examined the cord of a person whose arm had been amputated six years before, finding partial atrophy of the ganglion cells of the external group at the level of the fifth and sixth cervical nerves; while Hayem and Gilbert in a similar case found the motor cells in the whole cervical region affected, but more especially at the level of the seventh and eighth cervical and first dorsal segment.